

**dominion**

**VOTING**



## Election Workflow Automation

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Dominion Voting Systems Corp.  
[www.dominionvoting.com](http://www.dominionvoting.com)  
e-Voting Workshop 2006  
August 2<sup>nd</sup> to 4<sup>th</sup>, 2006



# Agenda

- Introduction
- Dominion and e-Voting
- Election Cycles and Events
- Dominion Democracy Suite™
  - Elector Management
  - Election Event Management
- Traditional Voting
- Remote Voting
- Current Work - Canadian and US Elections
- Q&A



# Introductions



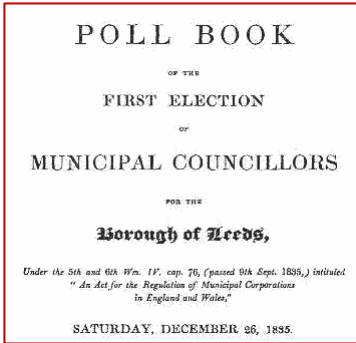
- Main office - Toronto, Canada.
- Offices in Montreal, Calgary, Chicago, Ohio, Belgrade.
- Primary focus – Canada and USA (for now)
- R&D – 75%, PhD and M.Sc. – 50%
- National Level (Canada)
  - 308 ridings, Everywhere Voting™
- Provincial Level
  - Real-time voter strike-offs
  - Elector management
  - Provincially approved tabulation equipment
- Municipal Level
  - Coast to coast – British Columbia, Alberta, Ontario, Quebec, New Foundland
  - Tabulation, electronic remote voting, vote by mail
  - Real-time voter strike-offs
  - Elector management
  - Variety of election services
- Partners – Microsoft, Cisco, Bell&Howel, DMTII, MPAC, Automark, Canada Post, Datafix, ...

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# Dominion and e-Voting



# Poll-book, UK, 1885



## Ballots Casting

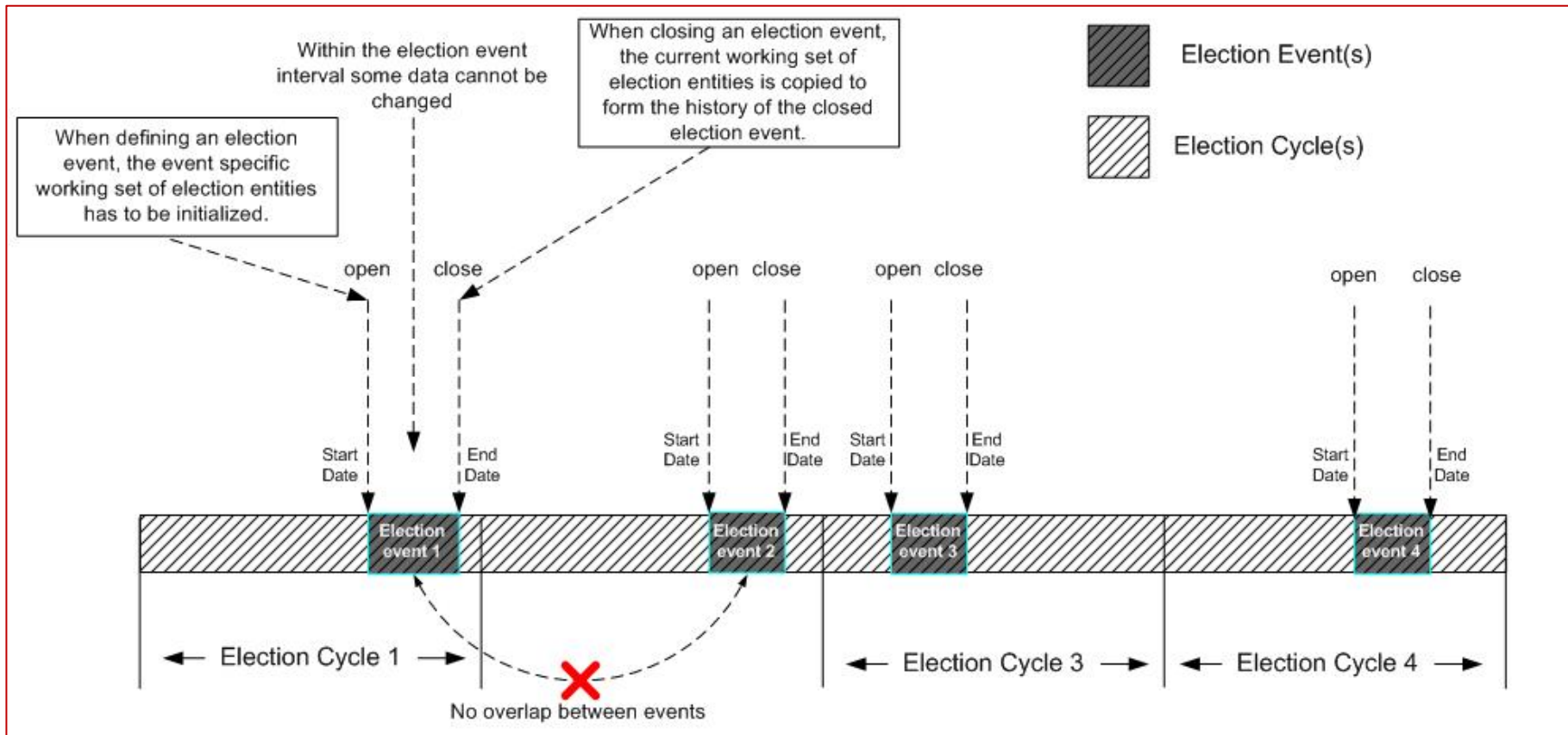


## Election Results, Argentina, 1900

- e-Voting  $\equiv$  Internet Voting (usually)
- If 'e' means electronic than e-Voting means much more than Internet voting
- In essence we have tried to automate and computerize every aspect of the election process
- Internet Voting is just a subset of the Remote Voting together with Vote by Mail, telephony voting, fax-back voting, etc.
- Traditional voting will be in use for years.
- This is why we have worked on integrated, automated election workflow – Democracy Suite™.



# Election Cycles & Election Events



# Dominion Democracy Suite™

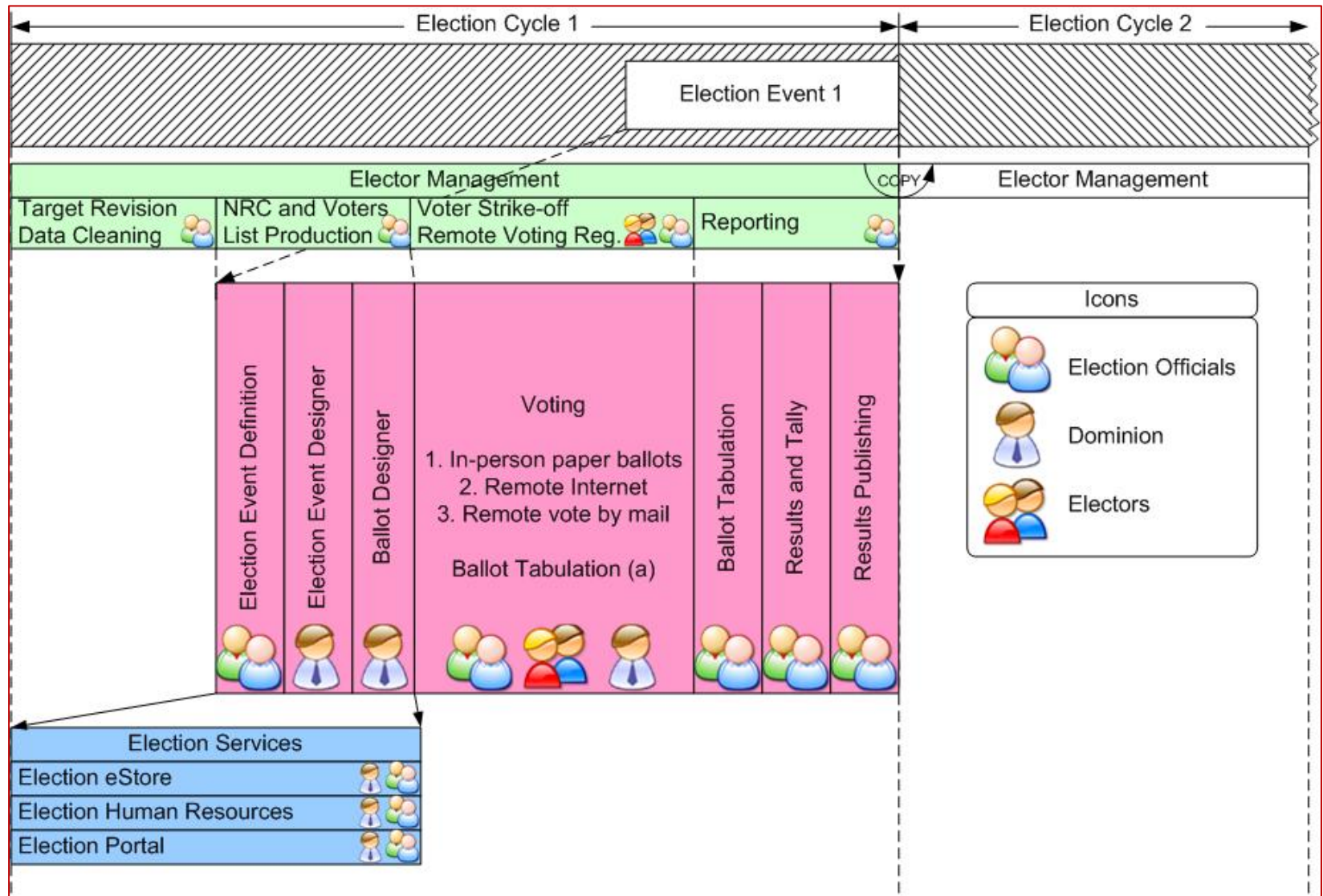
Variety of  
products and  
services

- Everywhere Voting™
- Elector Management
- Real-time Voter Strike-offs
- Election Event Management
  - Election Event Definition
  - Election Event Designer
  - Ballot Designer
  - Results and Tally
- Ballot Tabulation
- Remote Voting – Internet, mail, fax
- Results Publishing
- Election Store ([www.theelectionstore.com](http://www.theelectionstore.com))
- Election Human Resources
- Election Customer Portal

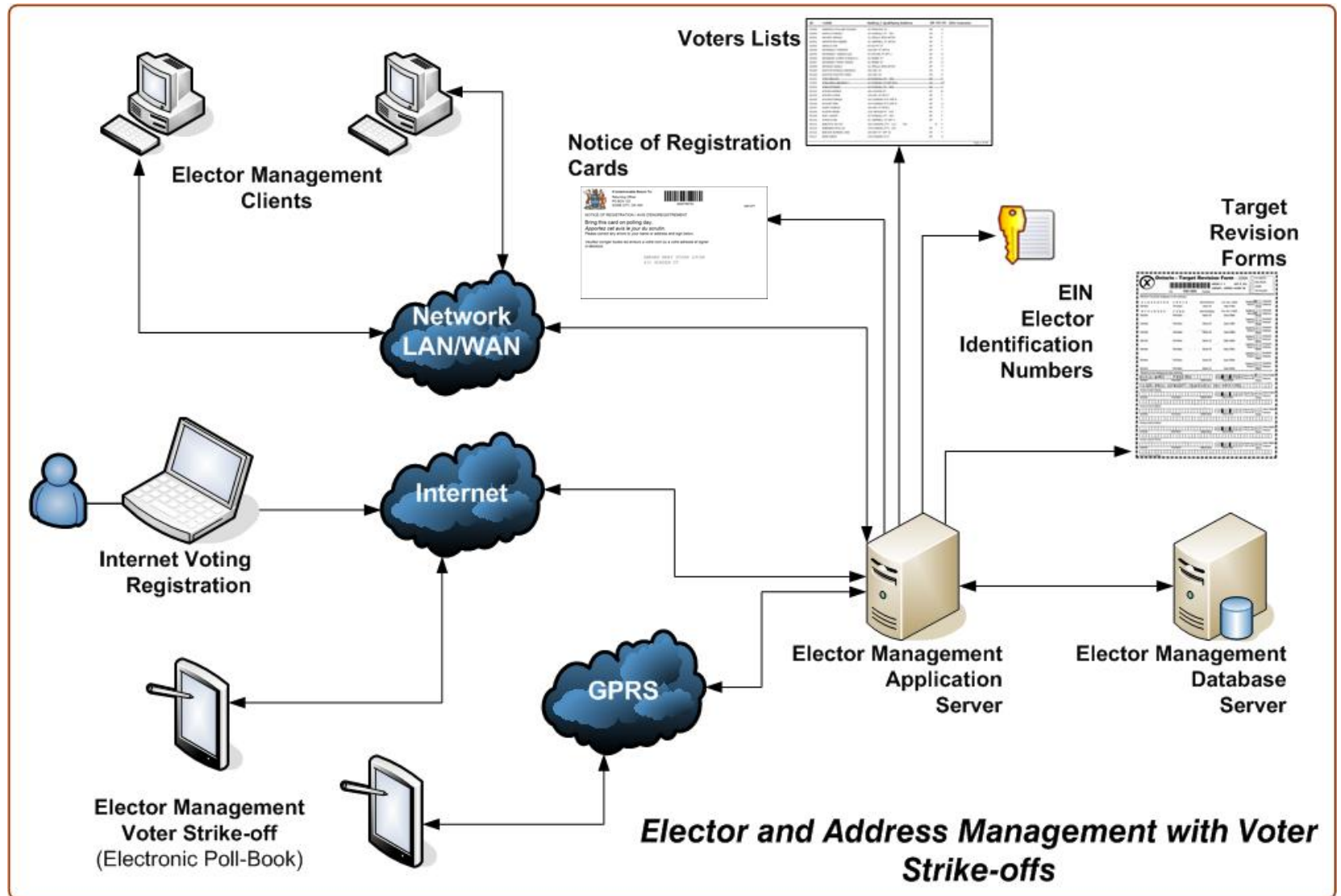




# Dominion Election Workflow



# Elector Management





# Elector Management

Create &  
manage your  
own  
permanent list  
of electors

- Interface with external data
- NRC (notice of registration cards) creation
- Cleanse data
  - Cleansing of elector and address data
  - Data comparisons & resolutions
- 'Where should I vote?'
- Elector list maintenance
- Updated elector lists
- Remote voting support
- Real-time voter strike-off support
- Extensive reporting capability



# Elector Management 1

**Electoral Management**

Main View Settings Help

Activities Workbench

General

Electoral

Voters Lists and N...

Data Quality

Remote Voting

Area Management

Reporting

Administration

Search

Quick Search Advanced Search

Search by ID Search by Last Name

Elector ID Last Name Adams

Search Reset

New Delete Current Create Report

Elector ID	Last Name	First Name	Middle Name	Address	Poll	Voting Status	Voting Channel
0000536764	ADAMS			417 MONTCA	S18.0	Not voted	Paper Ballot
0000433357	ADAMS	ALANA	CHRISTINE	871 CUMBERL	S16.0	Not voted	Paper Ballot
0000440097	ADAMS	ALICE		1042 ORIOLE	S13.0	Not voted	Paper Ballot
0000449808	ADAMS	ALICE	MAUREEN	993 HATFIEL	S13.0	Not voted	Paper Ballot
0000751063	ADAMS	ALMA		243 MILROY	S23.0	Not voted	Paper Ballot
0000658375	ADAMS	ANDREW	THOMAS	2504 KEITEL	S27.0	Not voted	Paper Ballot
0000565696	ADAMS	BARRY	WILLIAM	627 WALKERF	S12.0	Not voted	Paper Ballot
0000472998	ADAMS	BERT		574 ARNDON	S10.0	Not voted	Paper Ballot
0000390309	ADAMS	BEVERLY	EILEEN	699 WHITAKE	S20.0	Not voted	Paper Ballot
0000287620	ADAMS	BILL		899 CLONSLI	S20.0	Not voted	Paper Ballot

**Electoral Management**

Main View Settings Help

Activities Workbench

Data Quality

General

Electoral

Voters Lists and NRCs

Data Quality

Remote Voting

Area Management

Reporting

Administration

Look for Last Name 8 Find View Search results

Last Name	Created
BAKER	07/22/2006
BAKER	07/22/2006
BARBER	07/22/2006
BARCLAY	07/22/2006
BARRIFFE	07/22/2006
BARRY	07/22/2006
BARTLEY	07/22/2006
BASEL	07/22/2006
BATEMAN	07/22/2006
BATEMAN	07/22/2006
BATEMAN	07/22/2006
BEATTY	07/22/2006
BEHRENS	07/22/2006
BELL	07/22/2006
BELL	07/22/2006
BELL	07/22/2006
BELLAMY-MISSIOS	07/22/2006

**Electoral Management**

Main View Settings Help

Activities Workbench

Area Management

General

Remote Voting

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Administration

Search

Quick Search Advanced Search

Search by ID Search by Last Name

Elector ID Last Name Adams

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Elector ID	Last Name	First Name	Middle Name	Address	Poll	Voting Status	Voting Channel
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**Electoral Management**

Main View Settings Help

Activities Workbench

Area Management

General

Remote Voting

Area Management

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Search

Quick Search Advanced Search

Search by ID Search by Last Name

Elector ID Last Name Adams

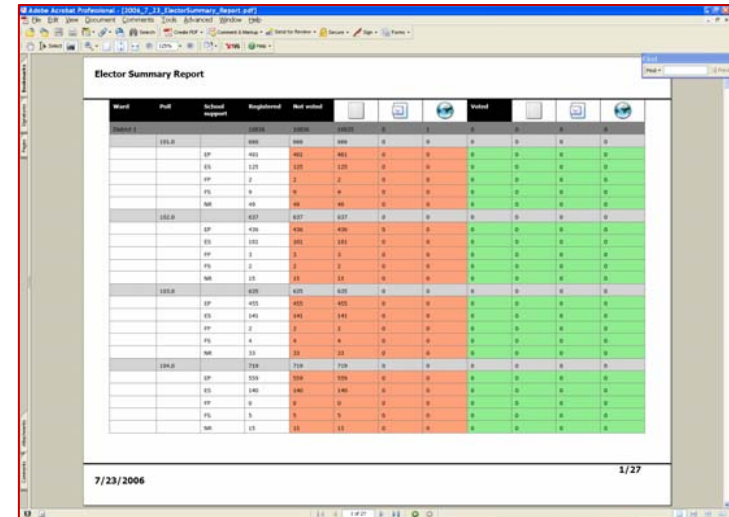
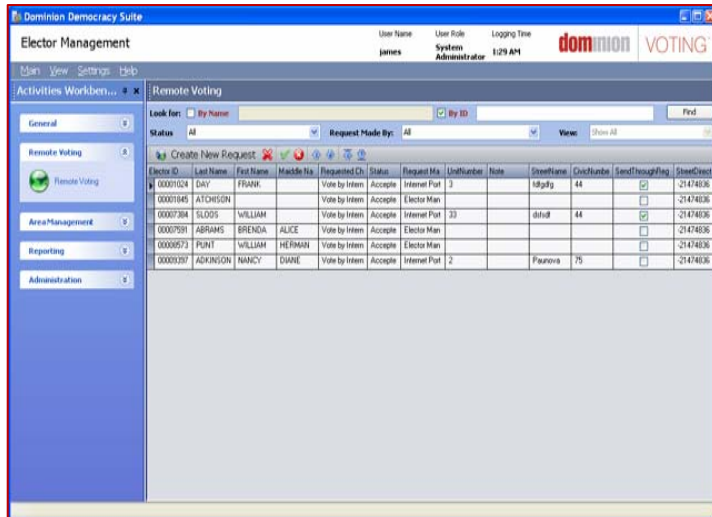
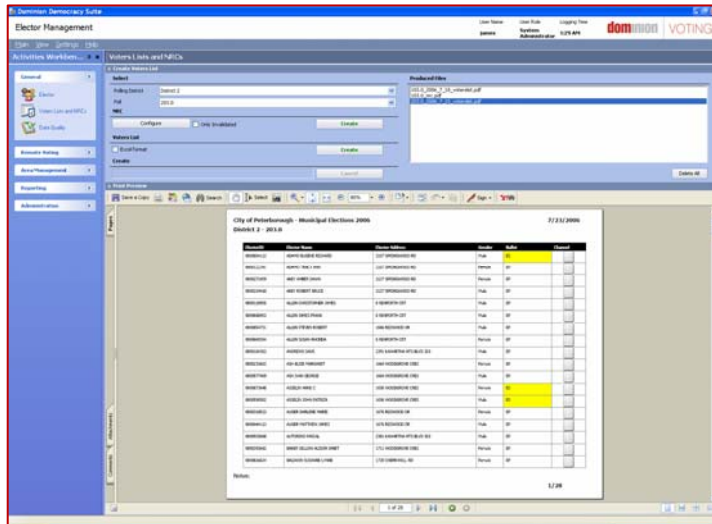
Search Reset

New Delete Current Create Report


Elector ID	Last Name	First Name	Middle Name	Address	Poll	Voting Status	Voting Channel
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0000287620	ADAMS	BILL		899 CLONSLI	S20.0	Not voted	Paper Ballot



# Elector Management 2



# Where Should I Vote?



**City of Peterborough**  
2006 General Local Election


On Line Services - Elector Services

**dominion** VOTING™

Welcome, John Smith

Please select a voting method

For more detailed instructions, download [Quick Start Guide](#) (PDF)  
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**City of Peterborough**  
2006 General Local Election

On Line Services - Elector Services

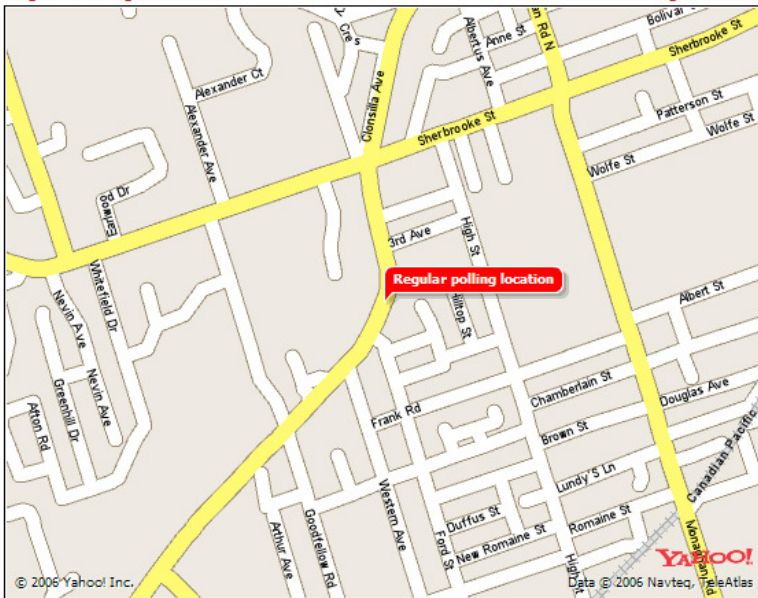
**dominion** VOTING™

Welcome, John Smith

Please select a voting method

Regular Polling Location

Advanced Polling Location



© 2006 Yahoo! Inc.

For more detailed instructions, download [Quick Start Guide](#) (PDF)  
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# Real-time voter strike-offs

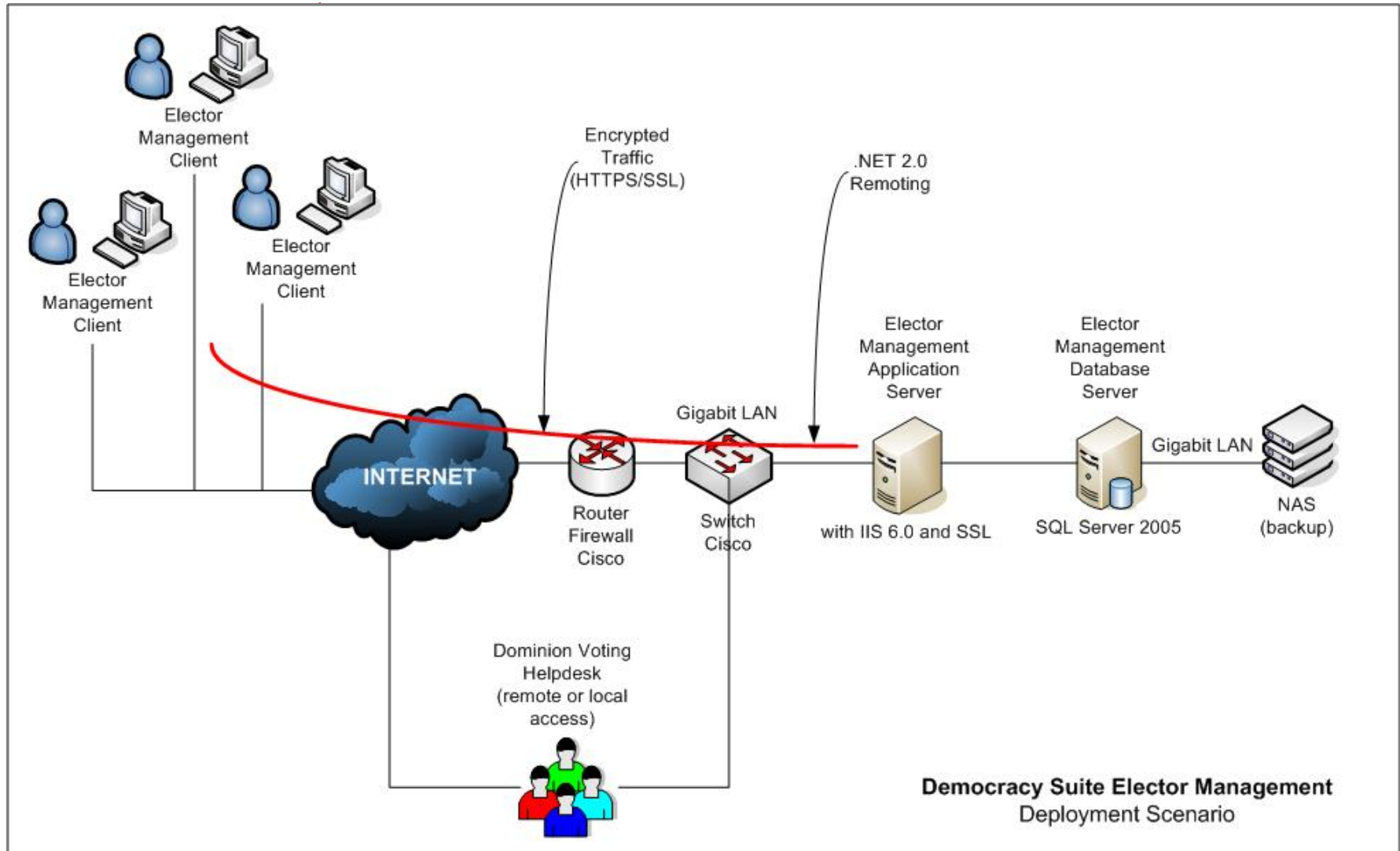
The only  
practical  
solution to  
everywhere  
voting

- Every name on every voter list
- Real-time poll connectivity
- Minimize scope of fraud
- Client-server database synchronization
- Integrated with Elector Management
- Electronic poll-book



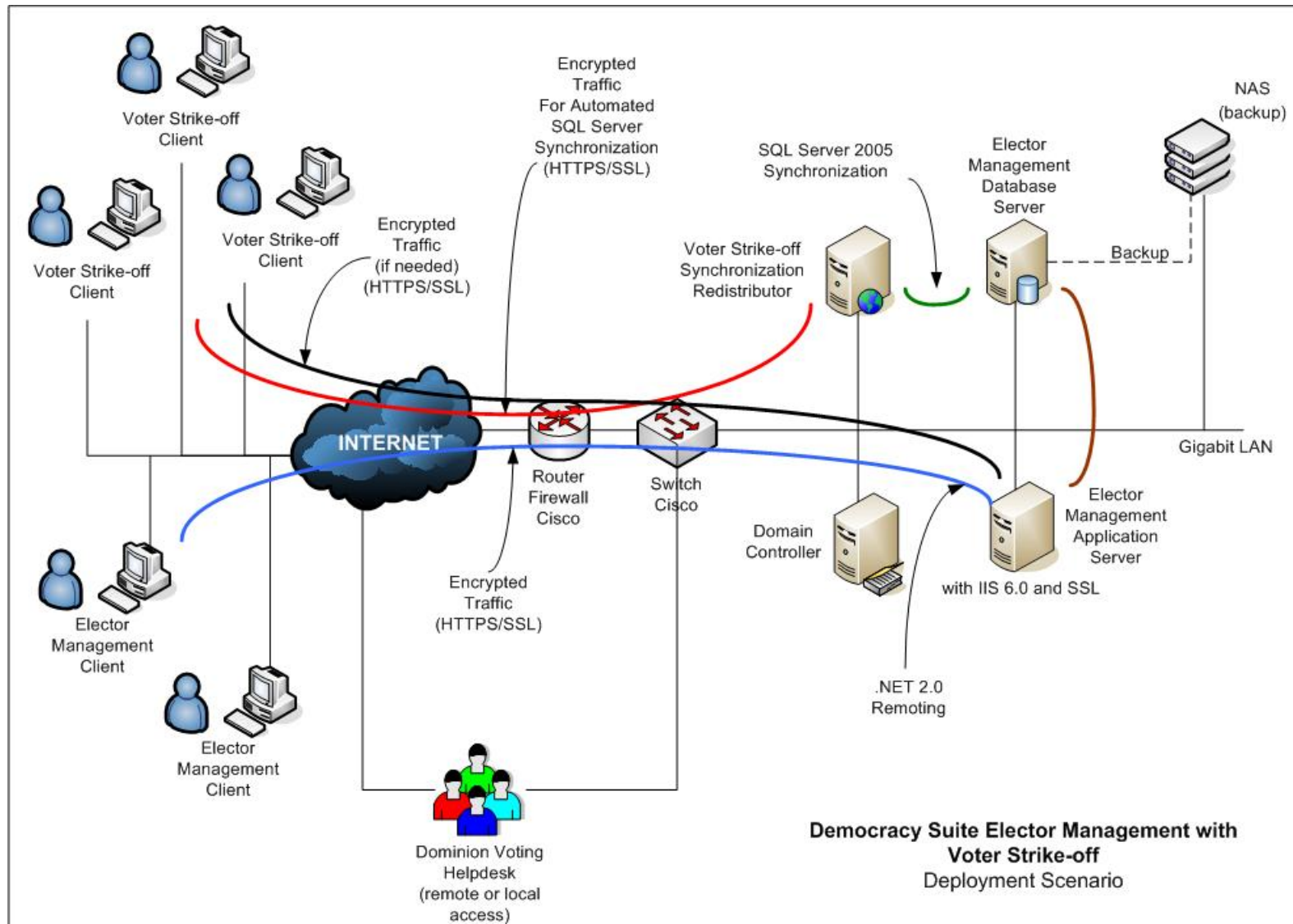


# Elector Management Deployment 1

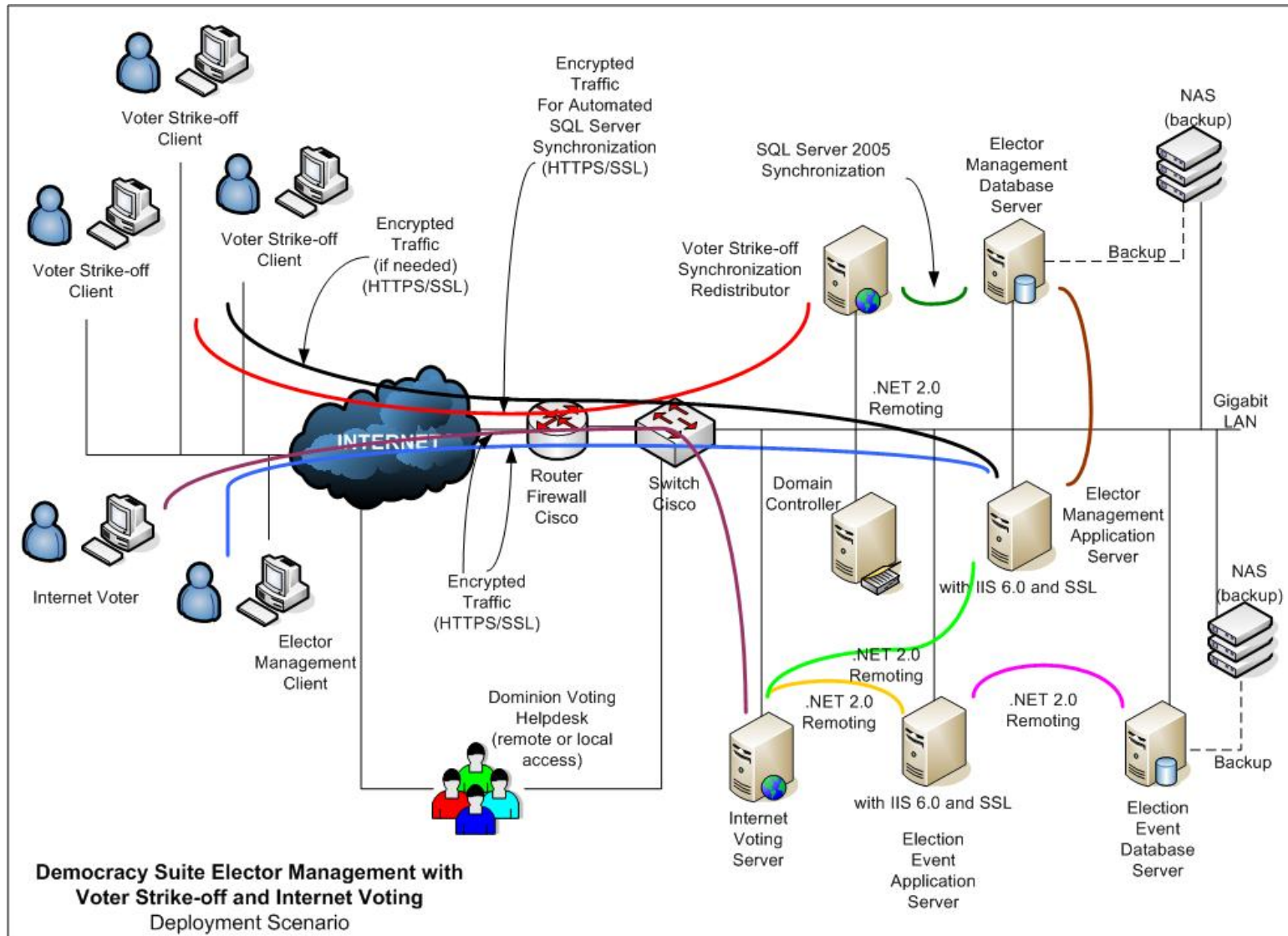




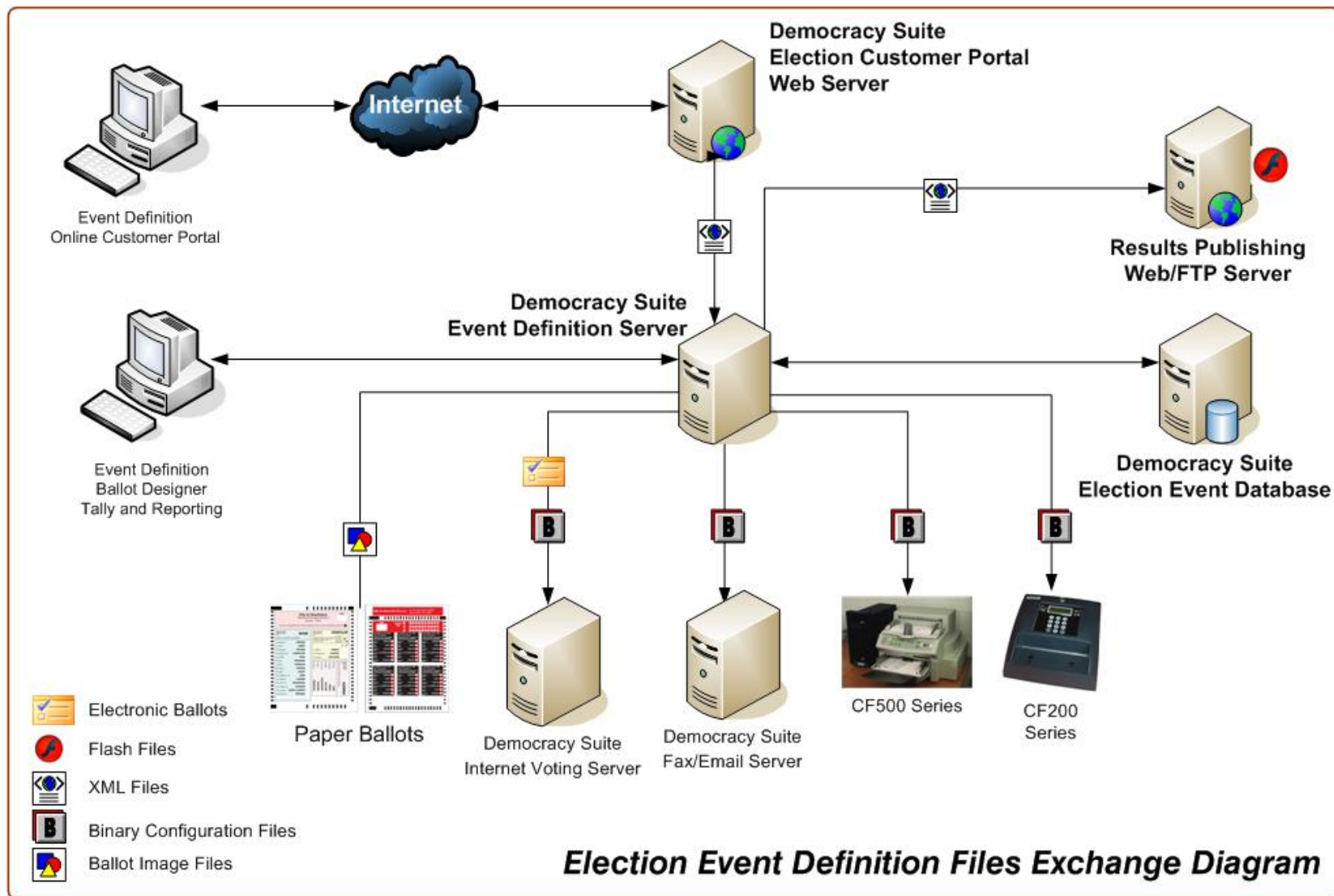
# Elector Management Deployment 2



# Elector Management Deployment 3



# Election Event Management



# Election Event Definition

On-line service

Allow election officials to:

- Election event
- Geography information
- Polling stations
- Contests
- Candidates
- Ballots
- Export XML

The screenshot shows the 'Election Event Definer' web application running in Microsoft Internet Explorer. The page has a blue header with the title 'Election Event Definer - Microsoft Internet Explorer'. Below the header is a navigation bar with 'File', 'Edit', 'View', 'Favorites', 'Tools', and 'Help'. The main content area is titled 'Dominion Voting Systems Election Event Definer' and 'Welcome'. It features a left sidebar with a tree view of election events, including 'Mayor at large', 'Regional Councillor Ward', 'Ward 1 Councillor', 'Regional Councillor Ward', 'English Public School Trust', 'English Separate School Trust', 'French Separate School Trust', 'French Public School Trust', 'Ward 2 Councillor', 'Ward 3 Councillor', and 'Referendum Question'. The 'English Separate School Trust' is selected. The main form area contains fields for 'Name (as it will be displayed on the ballot): English Separate School Trust', 'Description: English Separate School Trustee', 'Candidate Management' (with a 'Vote for' field set to 1 and an 'Add Candidate' button), 'Type: Trustee', and 'Subtype (trustee only): English Separate'. There is a 'Select Wards for this Contest' section with a table of wards and checkboxes, and a 'Select All' checkbox. The table has columns for 'Ward Name' and a checkbox. The rows are 'Ward 1', 'Ward 2', 'Ward 3', 'Ward 4', and 'Ward 5', all with checked checkboxes. At the bottom, there is an 'Add New Contest' button and an 'Apply' button. The footer contains the copyright notice: 'Copyright © 2006 Dominion Voting Systems Corporation. All rights reserved.'

**Election Event Definer - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Print Mail W PDF Adobe Flash Player Windows Media Player

**Dominion Voting Systems Election Event Definer**

Welcome

Options Help

☒ Mayor at large  
    Regional Councillor Ward  
☒ Ward 1 Councillor  
    Regional Councillor Ward  
        Androutsos  
        McKinstry  
☒ English Public School Trust  
    Maley  
    Chaudhry  
    Braun  
☒ English Separate School Trust  
    Wong  
    French Separate School Trust  
    French Public School Trust  
    Ward 2 Councillor  
    Ward 3 Councillor  
☒ Referendum Question

Name (as it will be displayed on the ballot): English Separate School Trust

Description: English Separate School Trustee

Candidate Management:

Vote for: 1

Add Candidate

Type: Trustee

Subtype (trustee only): English Separate

Select Wards for this Contest: ☐ Select All:

Ward Name	
Ward 1	<input checked="" type="checkbox"/>
Ward 2	<input checked="" type="checkbox"/>
Ward 3	<input checked="" type="checkbox"/>
Ward 4	<input checked="" type="checkbox"/>
Ward 5	<input checked="" type="checkbox"/>

Add New Contest

Apply

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**DISTRICT OF SQUAMISH**      **2005 General Local Election**  
*Generators December 3, 2004*

To vote, fill in the arrow: ➡ next to your choice(s). Use this ➡  
 Use only the marking on provided. To protect your vote's privacy, insert ballot  
 face down into voting machine. Do not fold the ballot.

<b>04947 MAYOR</b> Vote for ONE (1) only	<b>04948 COUNCILOR</b> Vote for as many times as ONE (1)	<b>04949 SCHOOL TRUSTEE</b> Vote for as many times as ONE (1)
<b>01 SUTHERLAND</b> Name <b>PATTERSON</b>	<b>01 LEROY McLENNAN</b>	<b>01 ARNOLD BEAUBIEN</b>
	<b>02 HARRISON AYER</b>	<b>02 GARY WALLACE</b>
	<b>03 KASLOV</b>	<b>03 ANDREW MCKENLOUGH</b>
	<b>04 JEFF MCKENZIE</b>	<b>04 TERRY PATTERSON</b>
	<b>05 JEFF DAUBSON</b>	<b>05 RICK PRICE</b>
	<b>06 GREG LEBLANC</b> <i>Representative</i>	
	<b>07 HILL JENSEN</b>	
	<b>08 STEVE KELLEN</b>	
	<b>09 BRUCE RALSER</b>	
	<b>10 JEFF DAUBSON</b>	
	<b>11 JENNIFER FENN</b> <i>Representative</i>	
	<b>12 GORDON LORSDALE</b>	
	<b>13 PATRICK HEINTZMAN</b>	
	<b>14 ALANNA HEDENHAIN</b>	
	<b>15 WENDY DORRAC</b>	
	<b>16 JIM PETERS</b> <i>Representative</i>	

- [illegible]

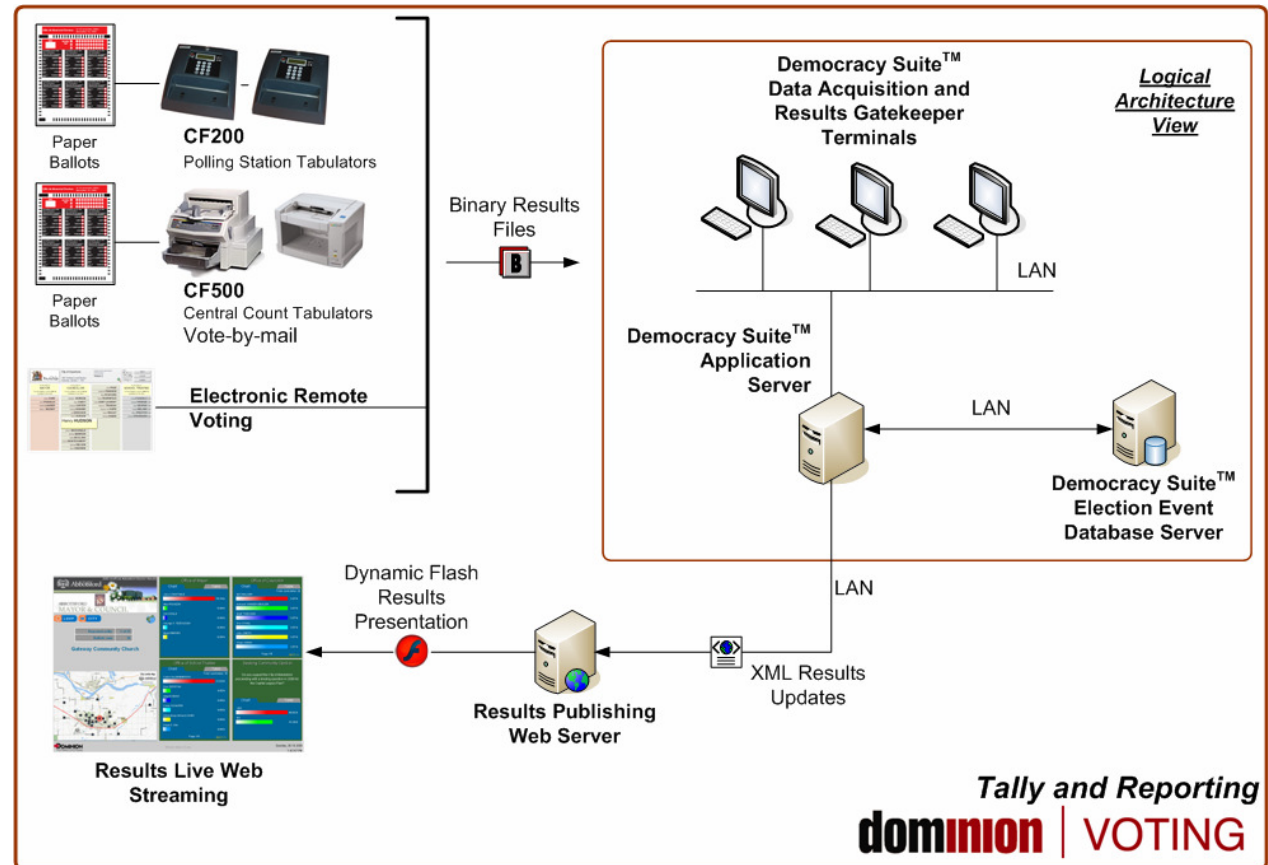
dominion VOTING



# Results Tally and Reporting

## Single point gateway to the public

- Acquire results
  - From all voting locations
  - From all voting channels
- Release results
  - Set check flags for sanity checks
  - May be configured to withhold release of any poll result
  - Automatically releases reporting files to FTP site
- Results auditing
  - Every/any ballot image can be inspected





# Election Results Publishing

Results go  
everywhere  
you need them  
to go

- Election results are automatically reported to any public forum
  - City website, local news media
  - Council chambers
- Results transmitted in real time
- XML schema



# Paper Ballots Tabulation

Decentralized  
and  
centralized  
ballot  
tabulation  
solutions for  
traditional  
paper-based  
voting

## ■ Poll Tabulation – CF200 Series



- High resolution image scanner
- Saves every ballot image
- Completely repeatable
- No restrictions ('X', "√", "←", "●")
- Integrated audio accessibility
- Ballot size up to A3, double sided

## ■ Central Tabulation – CF500 Series



- Same features as poll tabulation
- 6000 ballots per hour (actual)
- Very high throughput
- Ballot size up to A3, double sided



# Accessibility

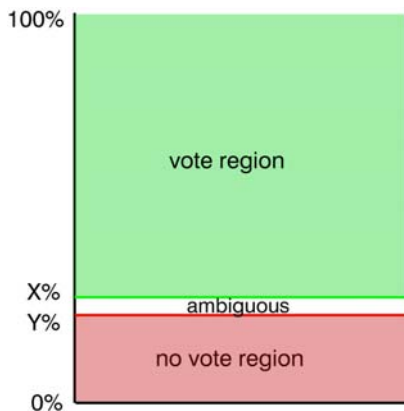
Universal  
access is not  
universal  
suffrage

- Universal suffrage
  - (def) the right to vote, to all adults, without distinction as to race, sex, belief, or social status.
    - privileged men → all men → woman → Asians → native people → inmates → homeless (1867-2003)
- Universal access
  - The right to ***a private*** vote, to all adults, without distinction as to race, sex, belief, social status or ***physical ability***
    - Universal access to Canadians (2003)



# Is the mark a vote?

Election  
officials define  
what should  
be considered  
as a vote



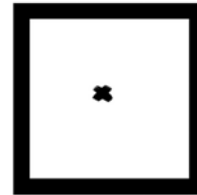
■ Is this a vote?



■ Is this a vote?



■ Is this a vote?



- Make the smallest mark you count as a vote (X%)
- Make the largest mark you don't count as a vote (Y%)



# Ballot watermarking

**City of Anywhere**  
General Municipal Election  
January 1 1891

DRO *J.S.*

To vote, completely fill in the box(es) ☐ next to your choice(s), like this: ☒

BALLLOT FOR THE OFFICE OF MAYOR		BALLLOT FOR THE OFFICE OF COUNCILLOR	
Vote for only ONE (1) candidate		Vote for ONE (1) 1st choice & ONE (1) 2nd choice, as shown at right:	
1) Robert L.	<b>BORDON</b>	1) Miles J.	<b>MASSEY</b>
2) Jean	<b>CABOT</b>	2) Menelaus P.	<b>O'DANIEL</b>
3) Jacques	<b>CARTIER</b>	3) Clause	<b>VON ESPIE</b>
4) Samuel de	<b>CHAMPLAIN</b>		
5) James	<b>COOK</b>		
6) Leif	<b>ERIKSSON</b>		
7) John	<b>FRANKLIN</b>		
8) Henry	<b>HUDSON</b>		
9) Jake	<b>JOLIET</b>		
10) William L.M.	<b>KING</b>		
11) Wilfrid	<b>LAURIER</b>		
12) John A.	<b>MacDONALD</b>		
13) Lester B.	<b>PEARSON</b>		
14) Louis S.	<b>SAINT-LAURENT</b>		
15) Pierre E.	<b>TRUDEAU</b>		

*Nick Salvatore*

BALLLOT FOR THE OFFICE OF ALDERMAN	
Vote for up to THREE (3) candidates	
1) Emily	<b>CARR</b>
2) Jeanne	<b>MANCE</b>
3) Nellie	<b>MCCLUNG</b>
4) Lucy M.	<b>MONTGOMERY</b>
5) Mary	<b>PICKFORD</b>
6) Fanny	<b>ROSENFELD</b>

DRO: 2109

Office of Mayor: 0,0,0,1,0,0,0,0,1,0,0,0,0,1,0,780  
Vote for: *Nick Salvatore*

Office of Councillor: (805,0),(1,790),(0,0)  
Vote for: Miles J. MASSEY (1st), Menelaus P. O'DANIEL (2nd)

Office of Alderman: 2,812,2,823,788,776  
Vote for: OVER-VOTE

- Patented technology
- Every ballot is saved – paper or electronic
- Ballot signature contains information about:
  - Voting marks for every contest
  - Pixel counts
- Supports preferential voting
- Supports write-in candidates
- Useful for logic and accuracy (L&A) testing
- Key for unquestionable auditing
- Eliminates recounts



# Remote voting

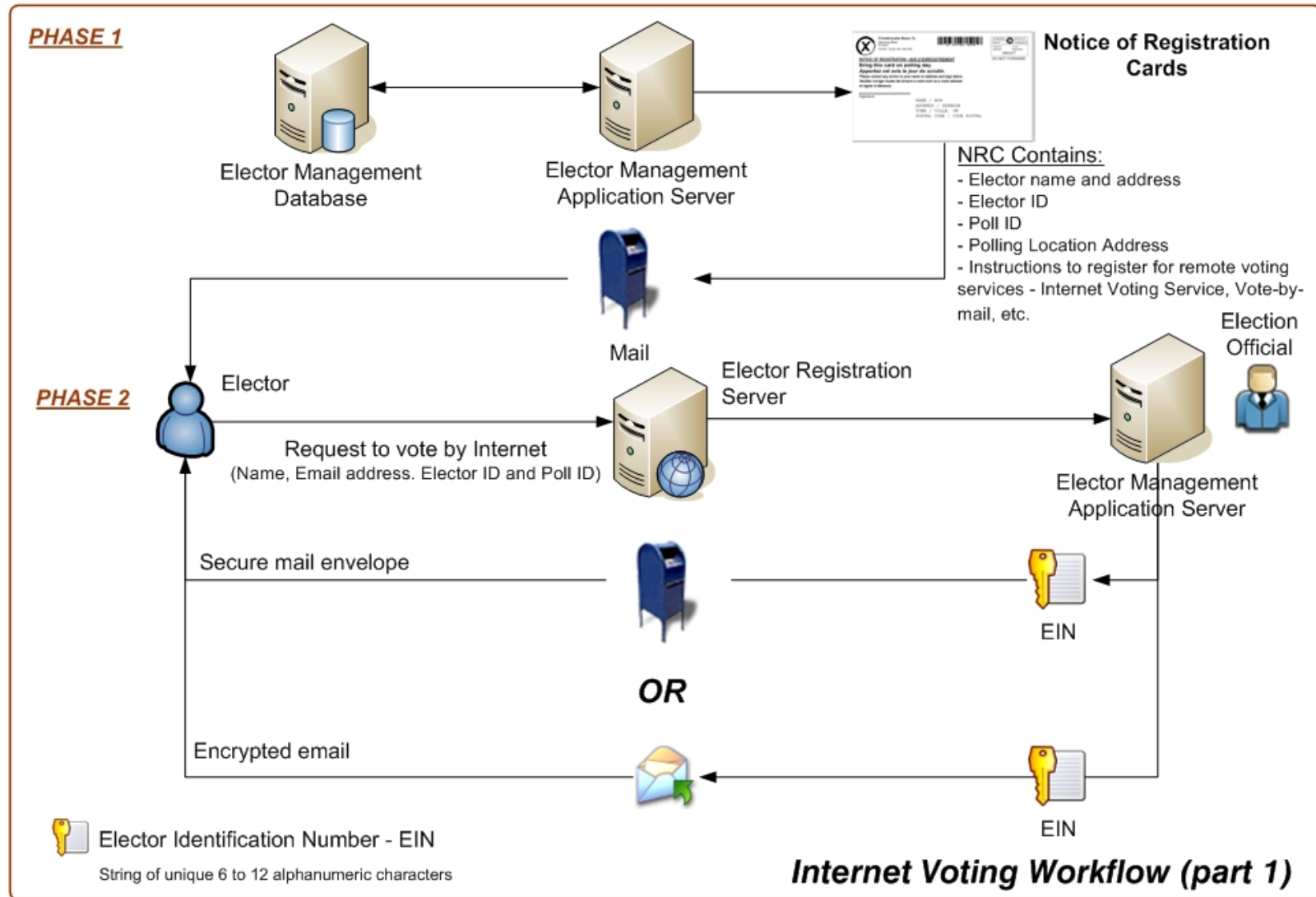
Maximize #  
of voters,  
not the # of  
votes

- Internet Voting
  - Easy, quick & slick
  - Can not be used as the only voting channel
  - Very convenient for those who can use it
  - Can vote last minute
  - Browser independent
  - In Canada – City of Markham (2003, ES&S), City of Peterborough (2006, Dominion)
- Vote by Mail
  - Most accessible remote voting method
  - Voters mark traditional paper ballots
  - Centralized ballot tabulation



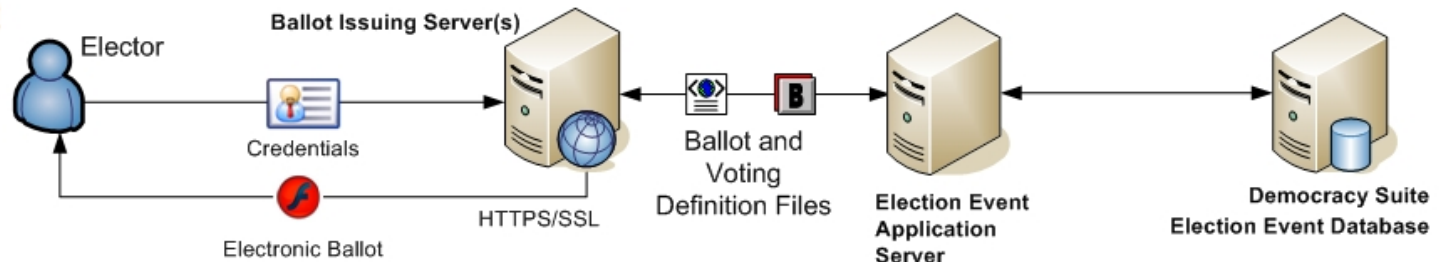


# Electronic Remote Voting 1

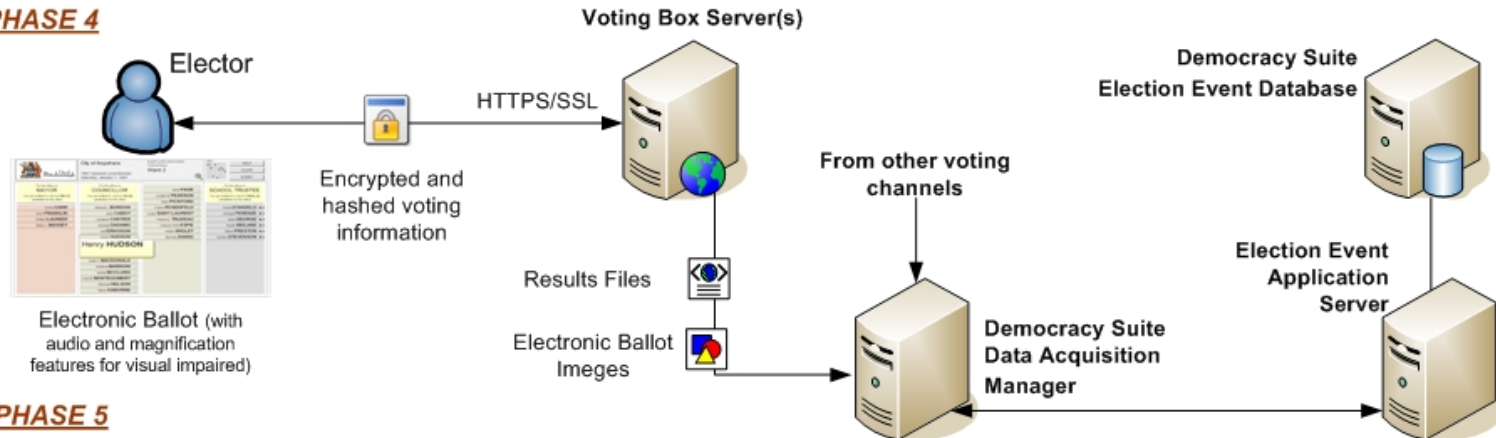


# Electronic Remote Voting 2

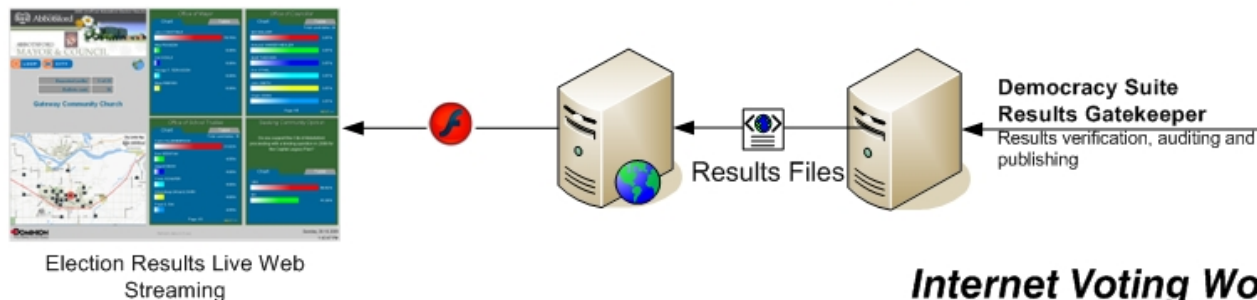
## PHASE 3



## PHASE 4



## PHASE 5



**Internet Voting Workflow (part 2)**



# Election Services Login


 If Undeliverable Return To:  
Returning Officer  
PO BOX 123  
SOME CITY, ON X9X  
0000798753 1681477

NOTICE OF REGISTRATION / AVIS D'ENGREGISTREMENT

Bring this card on polling day.  
*Apportez cet avis le jour du scrutin.*  
Please correct any errors to your name or address and sign below.  
*Veillez corriger toutes les erreurs a votre nom ou a votre adresse et signer ci-dessous.*

ABRAMS MARY SUSAN LUCAN  
430 HOWDEN ST

NRC Card

 **City of Peterborough**  
**2006 General Local Election**  
**On Line Services - Elector Login**

**dominion** VOTING™

Please type in your personal information to access Election Online Services

Enter Elector ID from your Notice of registration card (NRC) \*  ?

Last name \*  ?

First name \*  ?

Middle name  ?

If you can't read the code, **generate** a new one.

Enter the security code shown above \*  ?


256134


Fields required for successfull login are marked with \*.

For more detailed instructions, download **Quick Start Guide** (PDF)  
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# Internet Voting Registration

**City of Peterborough**  
**2006 General Local Election**  
On Line Services - Elector Services




Welcome, John Smith


Please select a voting method

☐ Vote over the Internet

☐ Vote in person (see your polling locations)

For more detailed instructions, download [Quick Start Guide](#) (PDF)  
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**City of Peterborough**  
**2006 General Local Election**  
On Line Services - Internet Registration



Welcome, John Smith (Elector ID: 0000195167)

Please type in your address as printed on your Notice Of Registration card (NRC)

Street number \*  ?

Street name \*  ?

Direction \*  ?

Unit type / number \*  ?

Please type in additional information

Year of birth \*  ?

Please select Personal Identification Number (PIN) delivery method

☐ Regular Mail

☐ Electronic mail

Enter e-mail  ?

Confirm e-mail  ?

Please select ballot type


☐ I prefer a regular ballot.


☐ I prefer a ballot for the visually impaired which supports text magnification and audible candidate names.

If your application to vote by Internet is approved, you will receive a PIN. You will then need this PIN to view an electronic ballot

Fields required for successful login are marked with \*.

For more detailed instructions, download [Quick Start Guide](#) (PDF)  
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**If Undeliverable Return To:**  
Returning Officer  
PO BOX 123  
SOME CITY, ON X9X

  
0000798753

1681477

NOTICE OF REGISTRATION / AVIS D'ENGREGISTREMENT

Bring this card on polling day.  
*Apportez cet avis le jour du scrutin.*  
Please correct any errors to your name or address and sign below.  
*Veillez corriger toutes les erreurs a votre nom ou a votre adresse et signer ci-dessous.*

ABRAMS MARY SUSAN LUCAN  
430 HOWDEN ST



# Internet Voting Login



## City of Peterborough 2006 General Local Election

On Line Services - Internet voting login

dominion

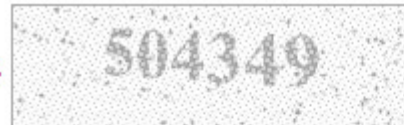
VOTING

Please type in your personal information to access and cast Internet ballot

Enter Elector ID from your Notice of registration card (NRC) \*  ?

Enter your Personal Identification Number (PIN) \*  ?

If you can't read the security code, **generate** a new one.



Enter the security code shown above \*  ?

Fields required for successfull login are marked with \*.

Reset


Submit

For more detailed instructions, download [Quick Start Guide](#) (PDF)  
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# Electronic Ballot 1



City of Peterborough

English Public  
Polling District:  
District 1

RBID:  


for the office of  
City Councillor

You are entitled to vote for 6 candidate(s) for this office.

Robert L. BORDON <input type="checkbox"/>	John PAGE <input type="checkbox"/>
Henry HUDSON <input type="checkbox"/>	Lester B. PEARSON <input checked="" type="checkbox"/>
Jean CABOT <input checked="" type="checkbox"/>	Mary PICKFORD <input type="checkbox"/>
Jacques CARTIER <input type="checkbox"/>	Fanny ROSENFELD <input type="checkbox"/>
George DADAMO <input type="checkbox"/>	Louis SAINT-LAURENT <input type="checkbox"/>
Leif ERIKSSON <input type="checkbox"/>	Pierre E. TRUDEAU <input checked="" type="checkbox"/>
Jake JOLIET <input type="checkbox"/>	Clause VON ESPIE <input checked="" type="checkbox"/>
William L.M. KING <input checked="" type="checkbox"/>	Adam WIGLEY <input type="checkbox"/>
Elliot LAWSON <input type="checkbox"/>	Bonny ZHANG <input type="checkbox"/>
John A. MACDONALD <input type="checkbox"/>	
Kristine MAROW <input type="checkbox"/>	
Nellie MCCLUNG <input checked="" type="checkbox"/>	
Lucy M. MONTGOMERY <input type="checkbox"/>	
Micheal NELSON <input type="checkbox"/>	
Steve OSBORNE <input type="checkbox"/>	

Step 2 of 3

HELP

CLEAR


PREVIOUS

NEXT



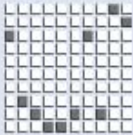


# Electronic Ballot 2



City of Peterborough

English Public  
Polling District:  
District 1



for the office of  
City Councillor

You are entitled to vote for 6 candidate(s) for this office.

Robert L. BORDON <input checked="" type="checkbox"/>	John PAGE <input type="checkbox"/>
Henry HUDSON <input type="checkbox"/>	Lester B. PEARSON <input type="checkbox"/>
Jean CABOT <input type="checkbox"/>	Mary PICKFORD <input type="checkbox"/>
Jacques CARTIER <input type="checkbox"/>	Fanny ROSENFELD <input type="checkbox"/>
George DADAMO <input type="checkbox"/>	Louis SAINT-LAURENT <input type="checkbox"/>
Leif ERIKSSON <input type="checkbox"/>	Pierre E. TRUDEAU <input type="checkbox"/>
Jake JOLIET <input type="checkbox"/>	Clause VON ESPIE <input checked="" type="checkbox"/>
William L.M. KING <input checked="" type="checkbox"/>	
Elliot LAWSON <input type="checkbox"/>	
John A. MACDONALD <input type="checkbox"/>	
Kristine MAROW <input type="checkbox"/>	
Nellie MCCLUNG <input type="checkbox"/>	
Lucy M. MONTGOMERY <input type="checkbox"/>	
Micheal NELSON <input checked="" type="checkbox"/>	
Steve OSBORNE <input type="checkbox"/>	

Clause VON ESPIE

Step 2 of 3

HELP

CLEAR

PREVIOUS

NEXT



# Electronic Ballot 3

Information			
Office of City Councillor, vote for 6 you have UNDERVOTED (4) Office of School Trustee (EP), vote for 3 you have OVERVOTED (5)			
Are you certain you wish to cast this ballot?			
<input type="button" value="Yes"/>		<input type="button" value="No"/>	
	<b>UNDERVOTE</b>	<b>OVERVOTE</b>	
for the office of <b>Mayor</b> You have <b>selected</b> :	for the office of <b>City Councillor</b> You have <b>selected</b> :	for the office of <b>School Trustee (EP)</b> You have <b>selected</b> :	
<hr/> John FRANKLIN	<hr/> Jean CABOT Lester B. PEARSON Pierre E. TRUDEAU Clause VON ESPIE	<hr/> Samuel DE CHAMPLAIN James COOK Patricia COSTER Jeanne MANCE Menelaus P O'DANIEL	



# Electronic Ballot Becomes Paper Ballot

**Ward 1**  
English-Language  
Public School Board

**CITY OF ANYWHERE**  
**1891 General Local Election**  
Saturday, January 1, 1891

**DRO**

To vote, fill in the box ☐ next to your choice(s), like this: ☒ Use only the marking pen provided.

Office Of Vote for no more than ONE (1)	Office Of Vote for no more than SIX (6)	Office Of Vote for no more than THREE (3)
Emily <b>CARR</b> <input checked="" type="checkbox"/>	Robert L. <b>BORDON</b> <input checked="" type="checkbox"/>	Samuel de <b>CHAMPLAIN</b> <input checked="" type="checkbox"/>
John <b>FRANKLIN</b> <input type="checkbox"/>	Jean <b>CABOT</b> <input type="checkbox"/>	James <b>COOK</b> <input type="checkbox"/>
Wilfrid <b>LAURIER</b> <input type="checkbox"/>	Jacques <b>CARTIER</b> <input type="checkbox"/>	Patricia <b>COSTER</b> <input checked="" type="checkbox"/>
Miles J. <b>MASSEY</b> <input checked="" type="checkbox"/>	George <b>DADAMO</b> <input type="checkbox"/>	Jeanne <b>MANCE</b> <input type="checkbox"/>
	Leif <b>ERIKSSON</b> <input checked="" type="checkbox"/>	Menelaus P. <b>O'DANIEL</b> <input checked="" type="checkbox"/>
	Henry <b>HUDSON</b> <input type="checkbox"/>	
	Jake <b>JOLIET</b> <input type="checkbox"/>	
	William L.M. <b>KING</b> <input checked="" type="checkbox"/>	
	Elliott <b>LAWSON</b> <input type="checkbox"/>	
	John A. <b>MacDONALD</b> <input type="checkbox"/>	
	Kristine <b>MARROW</b> <input type="checkbox"/>	
	Nellie <b>McCLUNG</b> <input checked="" type="checkbox"/>	
	Lucy M. <b>MONTGOMERY</b> <input type="checkbox"/>	
	Michael <b>NELSON</b> <input type="checkbox"/>	
	Steve <b>OSBORNE</b> <input checked="" type="checkbox"/>	
	John <b>PAGE</b> <input type="checkbox"/>	
	Lester B. <b>PEARSON</b> <input checked="" type="checkbox"/>	
	Mary <b>PICKFORD</b> <input type="checkbox"/>	
	Fanny <b>ROSENFELD</b> <input type="checkbox"/>	
	Louis <b>SAINT-LAURENT</b> <input checked="" type="checkbox"/>	
	Pierre E. <b>TRUDEAU</b> <input type="checkbox"/>	
	Clause <b>VON ESPIE</b> <input type="checkbox"/>	
	Adam <b>WIGLEY</b> <input type="checkbox"/>	
	Bonnie <b>ZHANG</b> <input checked="" type="checkbox"/>	

- Recreate cast ballot at the back-end
- Every electronic ballot -> paper ballot
- Used for auditing
- Ballot can be printed, scanned and tabulated as any paper ballot
- Permanent record



# Current Work - Canadian and US Elections

- Development of new poll-level optical tabulator – CF201
- US Certification
- HAVA compliance
- New release of EEMS – Election Event Management System – for US
- Further development on rich-client Internet ballot with data hiding techniques
- Support for smart cards for remote voting
- Further integration of GIS into Elector Management system



**dominion**

**VOTING**



## Election Workflow Automation

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e-Voting Workshop 2006  
August 2nd to 4th, 2006

